

Sub
D1

each data block is one of a macroblock or a slice,
and wherein a first assigned data block assigned to a first processing device in
the plurality of processing devices is produced in parallel with a second assigned data
block assigned to a second processing device in the plurality of processing devices,
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cont
and wherein the first processing device and the second processing device
include a fixed length coding means for producing fixed length coded data and a
variable length coding means for subsequently variable length coding the fixed length
coded data as steps in producing the coded data blocks.

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D2

3. (Twice Amended) An encoding apparatus as set forth in claim 2, wherein:
each of said fixed length encoding means of said plurality of signal processing
devices carries out said fixed length encoding for each image slice data block
comprising an image slice, and
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cont
each of said variable length coding means of said plurality of signal processing
devices carries out variable length coding on each image slice data block.

Sub
D2

(Twice Amended) An encoding method for encoding a data stream, the method
comprising:
dividing said data stream into a plurality of data blocks, each data block
comprising one of a macroblock and an image slice;
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successively allotting said data blocks to individually assigned signal processing
devices in a plurality of signal processing devices;
encoding said data blocks in parallel in each of said individually assigned signal
processing devices to produce encoded data blocks;

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successively carrying out variable length coding for the encoded data blocks in its individually allotted signal processing device; and
successively allotting additional data blocks to the signal processing devices that have completed variable length coding.

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cont
10. (Twice Amended) A decoding apparatus for decoding a data stream comprising a plurality of data blocks, the decoding apparatus comprising:

a multiprocessor system comprising a plurality of signal processing devices, wherein

each data block comprises a macroblock or a slice,

and wherein a first assigned data block assigned to a first processing device in the plurality of processing devices is decoded in parallel with a second assigned data block assigned to a second processing device in the plurality of processing devices,

and wherein the first processing device and the second processing device include a fixed length decoding means for producing fixed length coded data and a variable length decoding means for subsequently variable length coding the fixed length coded data as steps in decoding the coded data blocks.

11. (Twice Amended) A decoding apparatus as set forth in claim 10, wherein each of said variable length decoding means of said plurality of signal processing devices detects completion of the variable length decoding of a current data block and starts variable length decoding of a subsequent data block.

Sub D2
12. (Twice Amended) A decoding apparatus as set forth in claim 11, further comprising an allotting means for sequentially allotting the data blocks to said plurality of signal processing devices, and

wherein each of the signal processing devices performs both the variable length decoding and the fixed length decoding of each data block allotted to it.

BB5 cont.
13. (Twice Amended) A decoding apparatus as set forth in claim 11, wherein said data stream is a variable length coded image data stream obtained by fixed length and variable length encoding of image data blocks and wherein each of the signal processing devices performs both the variable length decoding and the fixed length decoding of each data block allotted to it.

Sub D3
17. (Twice Amended) A decoding method for decoding a data stream comprising a plurality of data blocks, the method comprising:

successively allotting data blocks to a plurality of signal processing devices;

wherein each data block is one of a macroblock or a slice;

2B6 cont.
in each signal processing device, carrying out both variable length decoding on an assigned data block followed by fixed length decoding of said assigned data block,

wherein the signal processing devices perform the variable length decoding and fixed length decoding of assigned data blocks in parallel.

18. (Twice Amended) A decoding method as set forth in claim 17, wherein each of said plurality of signal processing devices detects when variable length decoding for a